**Topic:**

**Filling the Generation Gap – Convergence in Wireless Networking**

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**About the keynote speaker**

Victor C. M. Leung received the B.A.Sc. (Hons.) degree in electrical engineering from the University of British Columbia (U.B.C.) in 1977, and was awarded the APEBC Gold Medal as the head of the graduating class in the Faculty of Applied Science. He attended graduate school at U.B.C. on a Natural Sciences and Engineering Research Council Postgraduate Scholarship and obtained the Ph.D. degree in electrical engineering in 1981.

From 1981 to 1987, Dr. Leung was a Senior Member of Technical Staff at Microtel Pacific Research Ltd. (later renamed MPR Teltech Ltd.), specializing in the planning, design and analysis of satellite communication systems. He also held a part-time position as Visiting Assistant Professor at Simon Fraser University in 1986 and 1987. In 1988, he was a Lecturer in the Department of Electronics at the Chinese University of Hong Kong. He returned to U.B.C. as a faculty member in 1989, where he is currently a Professor and the holder of the TELUS Mobility Research Chair in Advanced Telecommunications Engineering in the Department of Electrical and Computer Engineering. He is a member of the Institute for Computing, Information and Cognitive Systems at U.B.C. Dr. Leung has co-authored more than 300 technical papers in international journals and conference proceedings. His research interests are in the areas of architectural and protocol design and performance analysis for computer and telecommunication networks, with applications in satellite, mobile, personal communications and high speed networks.

Dr. Leung is a registered professional engineer in the Province of British Columbia, Canada. He is a Fellow of IEEE and a voting member of ACM. He serves on the editorial boards of the IEEE Transactions on Wireless Communications, the IEEE Transactions on Vehicular Technology, and the International Journal of Sensor Networks. He has guest-edited several journal special issues, and served on the technical program committee of numerous international conferences. He is the General Chair of QShine’07 in Vancouver, Canada, and Symposium Chair for Next Generation Mobile Networks in IWCMC’07 in Honolulu, USA. He was the Local Chair and Symposium Chair for Next Generation Mobile Networks in IWCMC’06 in Vancouver, Canada. He was a General Co-chair of ACM MSWiM’06 in Montreal, Canada, and a TPC Vice-chair of IEEE WCNC’05 in New Orleans, USA.

For more information, refer to his home page: http://www.ece.ubc.ca/~vleung/
Summary: Wireless networking technologies have progressed rapidly over the past decades to emerge from research laboratories and become an integral part of everyday life in society. Over a short time span of less than twenty years, cellular networks have advanced through three generations. The third generation (3G) personal communication service (PCS) networks that have been rolling out in the new millennium are leading the way in service convergence, by extending not only voice service, but also messaging, web, and even television services to mobile subscribers. At the same time, many license-free wireless networking technologies such as wireless metropolitan area networks (WMANs), wireless local area networks (WLANs) and wireless personal area networks (WPANs) have emerged and are providing strong competitions to PCS offered by traditional wireless carriers. Where the road of progress in wireless networking services will lead us, and what technologies will be embraced in future generation wireless networks, are timely questions that both researchers and practitioners are trying to answer. There is now a strong consensus in the wireless networking technical community that the next generation wireless networks will be evolutionary and will embrace multiple wireless technologies and system components built upon a common IP core network. It is envisaged that advanced subscriber terminals will be equipped with multiple or smart radio interfaces, and will interact with several alternate access networks to provide the subscriber with an “always best connected” (ABC) service that is cognizant of the requirements of the subscriber’s current application and the capability and quality of service supported by the diverse access alternatives. The convergent of multiple wireless networking technologies to provide a coordinated service to mobile subscribers can therefore be considered a technological trend that is filling the generation gap in wireless networking. This presentation will describe the features and characteristics of converged wireless networks, elaborate on some of the technical challenges that need to be tackled to make ABC service over converged wireless networks a reality, and describe several novel solutions we have developed to address these challenges.